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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/519,762	07/26/2005	Kiyoshi Imai	15115/147001	5376

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EXAMINER

LEE, JOHN D

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 09/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/519,762

Applicant(s)

IMAI ET AL.

Examiner

John D. Lee

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-5 and 7 is/are allowed.
- 6) ☒ Claim(s) 1, 6, 8 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 June 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Applicant's communication, submitted on June 23, 2006, has been carefully studied by the Examiner. The newly submitted sheet of drawing is acceptable. The arguments advanced in this communication, considered together with the amendments made to the claims, are persuasive and the rejection set forth in the previous Office action is hereby withdrawn. Specifically with respect to the Fujita reference (U.S. Patent 6,304,709, previously relied upon), it is agreed that the reference does not disclose or suggest movement of the mirror in the manner now specified in the claims. In view of further search in this application, however, and the consequent discovery of a previously uncited prior art reference, new rejections are set forth below. This action is **not** made final.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. § 102(b) as being clearly anticipated by U.S. Patent 6,628,882 to Vaganov et al. Vaganov et al discloses a variable optical attenuator which is able to adjust optical attenuation, comprising an input optical transmission channel **21**, an output optical transmission channel **30**, a light reflection surface (mirror) **24**, and an actuator **26** for providing movement to the mirror **24**. See Figure 4 of Vaganov et al. The light reflection surface (mirror) **24** reflects light from the input optical transmission channel **21** to the output optical transmission channel **30**, and the actuator **26** moves at least a part of the mirror **24** linearly along a direction *orthogonal* to optical axis C. This movement is explained in column 7 (lines 45-61) of Vaganov et al,

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wherein it is stated that movement is orthogonal to both the X and Y axes, meaning that at least some movement occurs in planes which are orthogonal to the Z axis (which corresponds to optical axis C).

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

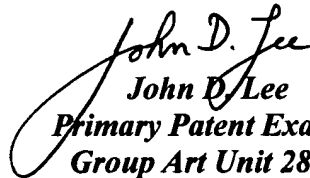
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 8, and 9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 6,628,882 to Vaganov et al. Vaganov et al does not specifically state that the actuator 26 may comprise a voice coil motor and a latch mechanism. The reference does, however, suggest that well-known electro-optical-mechanical mechanisms of this type could be used (see, for example, claim 5 of Vaganov et al). The use of a voice coil motor and a latch mechanism as the actuator 26 of Vaganov et al would thus have been obvious to the person of ordinary skill in the art. There is also no specific indication of a fiber array for holding the input optical transmission channel 21 and output optical transmission channel 30 in Vaganov et al. It is clear, however, that these channels must be held firmly in place when the variable optical attenuator is being used. The inclusion of a holding array in the reference would therefore have been obvious. Vaganov et al further does not indicate that mirror 24 is a "perfect" mirror, resulting from a boundary between two media of differing refractive index, but this would have been an obvious mirror implementation since it would not effect the operation of the disclosed variable optical attenuator.

Claims 2-5 and 7 are allowable over the prior art of record, for reasons already made of record in the previous Office action. The newly cited and applied Vaganov et al reference also does not disclose or reasonably suggest the limitations of these claims.

Applicant's arguments filed on June 23, 2006, have been fully considered, but are moot in view of the new ground(s) of rejection presented above.

Any inquiry concerning the merits of this communication should be directed to Examiner John D. Lee at telephone number (571) 272-2351. The Examiner's normal work schedule is Tuesday through Friday, 6:30 AM to 5:00 PM. Any inquiry of a general or clerical nature (i.e. a request for a missing form or paper, etc.) should be directed to the Technology Center 2800 receptionist at telephone number (571) 272-1562, to the technical support staff supervisor (Team 8) at telephone number (571) 272-1564, or to the Technology Center 2800 Customer Service Office at telephone number (571) 272-1626.


John D. Lee
Primary Patent Examiner
Group Art Unit 2874